

WHAT IS CLAIMED IS:

1. An image forming method using a photothermographic material comprising, on at least one side of a support, at least a photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent and a binder, wherein:

the photothermographic material has a gamma value of 2.0 to 4.0 at an optical density of 1.2 in a photographic characteristic curve; and

the photothermographic material is developed in a thermal developing device configured such that a distance between an exposing section and a developing section is not more than 50 cm.

2. The method of claim 1, wherein the photothermographic material is thermally developed while conveyed at a speed of not less than 23 mm/sec.

3. The method of claim 1, wherein the photosensitive silver halide includes at least two types of silver halide emulsions having different grain sizes.

4. The method of claim 1, wherein the non-photosensitive organic silver salt is prepared in the presence of the photosensitive silver halide.

5. The method of claim 1, wherein the photothermographic material is a sheet-like material and the photothermographic material begins to be developed at an exposed portion

thereof while another portion is still being exposed.

6. An image forming method using a photothermographic material comprising an image forming layer formed on at least one side of a support, the image forming layer comprising at least a photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent and a binder, wherein:

the non-photosensitive organic silver salt includes a silver salt of fatty acid;

the photothermographic material has the silver salt of fatty acid at an application amount of 5 mmol/m² to 18 mmol/m²; and

the photothermographic material is developed in a thermal developing device configured such that a distance between an exposing section and a developing section is not more than 50 cm.

7. The method of claim 6, wherein:

the photothermographic material has a protective layer formed at the side of the support at which the image forming layer is formed and at a position farther away from the support than the image forming layer; and

the protective layer includes a compound which chemically reacts with materials vaporized at the time of thermal development to form non-volatile materials as a trapping agent.

8. The method of claim 7, wherein the trapping agent of the vaporized materials is a compound having a -NH- bond.

9. The method of claim 6, wherein the photothermographic material has a barrier layer formed at the side of the support at which the image forming layer is formed and at a position farther away from the support than the image forming layer, the barrier layer preventing transmission of the material vaporized at the time of thermal development.

10. The method of claim 9, wherein the barrier layer includes at least one polymer selected from a group consisting of polyvinyl alcohol, polystyrene and a copolymer thereof, polyvinyl chloride, polyvinyl acetate and a copolymer thereof, water soluble polyester, water insoluble polyester, gelatin and a derivative thereof, and polyvinyl pyrrolidone.

11. The method of claim 9, wherein the barrier layer includes water insoluble polyester having a glass transition temperature of not less than 150 °C and a number average molecular weight of not less than 10,000.

12. The method of claim 9, wherein the barrier layer includes polyvinyl alcohol having a saponification rate of not less than 88 %.

13. The method of claim 9, wherein the barrier layer includes polystyrene having at least two epoxy groups in a molecule thereof.

14. The method of claim 9, wherein the barrier layer includes one of polyacrylate and polymethacrylate.

15. The method of claim 9, wherein the barrier layer includes one of polyacrylate and polymethacrylate having at least two epoxy groups in a molecule thereof.

16. The method of claim 7, wherein the protective layer of the photothermographic material has a thickness of 1 μm to 5 μm .

17. The method of claim 9, wherein the barrier layer of the photothermographic material has a thickness of 1 μm to 5 μm .

18. The method of claim 6, wherein the silver salt of fatty acid contains silver behenate not less than 50 mol%.

19. An image forming method using a photothermographic material comprising, on at least one side of a support, a photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent and a binder, wherein:

the photothermographic material is discharged from a thermal developing device within 35 seconds after heating for thermal development is ceased.

20. The method of claim 19, wherein, when the photothermographic material is exposed with an amount of light sufficient to make image density of 1.0 by a thermal development of 14 seconds, thermal development at 16 seconds yields an image density of 1.0 to 1.3.

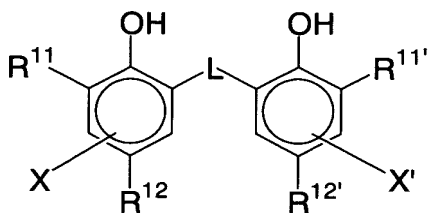
21. The method of claim 19, wherein the non-photosensitive

organic silver salt contains 30 mol% to 100 mol% of silver behenate.

22. The method of claim 19, wherein the photothermographic material includes at least one type of a development accelerator.

23. The method of claim 19, wherein the reducing agent is a bisphenol reducing agent.

24. The method of claim 23, wherein the reducing agent is a compound represented by the following general formula (R):



wherein R¹¹ and R^{11'} each independently represents one of a secondary and a tertiary alkyl group having 3 to 15 carbon atoms, R¹² and R^{12'} each independently represents a hydrogen atom or a substituent capable of substituting for a hydrogen atom on a benzene ring, L represents one of a -S- group and a -CHR¹³- group, R¹³ represents one of a hydrogen atom and an alkyl group having 1 to 20 carbon atoms, and X¹ and X^{1'} each independently represents a hydrogen atom or a substituent capable of substituting for a hydrogen atom on a benzene ring.

25. The method of claim 19, wherein the photothermographic

material includes a phthalazine compound in an amount of 0.01 mol to 10 mol per one mol of applied silver.

26. The method of claim 19, wherein the photothermographic material includes at least one type of mercapto compound.

27. The method of claim 19, wherein the photothermographic material includes at least one type of benzotriazole compound.

28. The method of claim 19, wherein the photothermographic material includes a thermal solvent having a melting point of 50 °C to 200 °C.

29. The method of claim 1, wherein:

the photothermographic material has a maximum photosensitive wavelength of from 600 nm to less than 700 nm;

the exposing section of the thermal developing device has a laser irradiation means; and

a distance between a scanning line of the laser irradiation means and an inserting portion of the thermal developing section is not more than 50 cm.